

**PUBLIC EMPLOYEES RETIREMENT ASSOCIATION OF MINNESOTA  
LOCAL GOVERNMENT CORRECTIONAL SERVICE  
RETIREMENT PLAN  
GASB STATEMENTS NO. 67 AND NO. 68 ACCOUNTING AND  
FINANCIAL REPORTING FOR PENSIONS  
JUNE 30, 2014**

December 3, 2014

Public Employees Retirement Association of Minnesota  
Local Government Correctional Service Retirement Plan  
St. Paul, Minnesota

Dear Trustees of the Local Government Correctional Service Retirement Plan:

This report provides accounting and financial reporting information that is intended to comply with the Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68 for the Local Government Correctional Service Retirement Plan ("LGCSR"). These calculations have been made on a basis that is consistent with our understanding of these accounting standards.

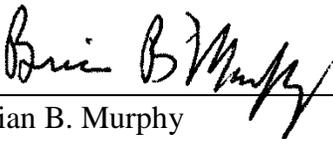
GASB Statement No. 67 is the accounting standard that applies to the financial reports issued by retirement systems. GASB Statement No. 68 establishes accounting and financial reporting for state and local government employers who provide their employees (including former employees) pension benefits through a trust.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of providing reporting and disclosure information that satisfies the requirements of GASB Statements No. 67 and No. 68. The calculation of the plan's liability for this report may not be applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement No. 67 may produce significantly different results. The information in this report is calculated on a total plan basis. PERA is responsible for preparing the Schedule of Employer Allocations and the Schedule of Pension Amounts by Employer. This report may be provided to parties other than the Public Employees Retirement Association (PERA) only in its entirety and only with the permission of PERA.

This report is based upon information, furnished to us by PERA, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. If your understanding of this information is different, please let us know. This information was checked for internal consistency, but it was not otherwise audited.

To the best of our knowledge, the information contained with this report is accurate and fairly represents the actuarial position of the Local Government Correctional Service Retirement Plan as of the measurement date. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Brian B. Murphy and Bonita J. Wurst are members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

By   
Brian B. Murphy  
FSA, EA, MAAA

By   
Bonita J. Wurst  
ASA, EA, MAAA

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**SECTION A**  
EXECUTIVE SUMMARY

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**EXECUTIVE SUMMARY**  
as of June 30, 2014 *(Dollars in Thousands)*

	<u>2014</u>	
Actuarial Valuation Date	June 30, 2014	
Measurement Date of the Net Pension Liability	June 30, 2014	
Employer's Fiscal Year Ending Date (Reporting Date)	variable	
<b>Membership</b>		
Number of		
- Service Retirements	571	
- Survivors	36	
- Disability Retirements	162	
- Deferred Retirements	2,380	
- Terminated other non-vested	1,936	
- Active Members	<u>3,603</u>	
- Total	8,688	
Covered Payroll	\$ 172,041	
<b>Net Pension Liability</b>		
Total Pension Liability	\$ 460,776	
Plan Fiduciary Net Position	<u>453,232</u>	
Net Pension Liability	\$ 7,544	
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	98.36%	
Net Pension Liability as a Percentage of Covered Payroll	4.39%	
<b>Development of the Single Discount Rate</b>		
Single Discount Rate	7.90%	
Long-Term Expected Rate of Investment Return	7.90%	
Long-Term Municipal Bond Rate*	4.29%	
Last year ending June 30 in the 2015 to 2114 projection period for which projected benefit payments are fully funded	2114	
<b>Total Pension Expense/ (Income)</b>	<b>\$ 3,168</b>	
<b>Deferred Outflows and Deferred Inflows of Resources by Source to be recognized in Future Pension Expenses</b>		
	<b>Deferred Outflows</b>	<b>Deferred Inflows</b>
	<b>of Resources</b>	<b>of Resources</b>
Difference between expected and actual experience	\$ -	\$ 3,995
Changes in assumptions	-	25,626
Net difference between projected and actual earnings on pension plan investments	-	<u>31,843</u>
Total	<u>\$ -</u>	<u>\$ 61,464</u>

\* Based on the Bond Buyer 20-Bond Index of general obligation municipal bonds as of June 26, 2014  
(i.e., the weekly rate closest to but not later than the Measurement Date).

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## DISCUSSION

### Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67, *Financial Reporting for Pension Plans* establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68, *Accounting and Financial Reporting for Pensions* establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report and the retirement system and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

### Financial Statements

GASB Statement No. 68 requires state and local governmental employers to recognize the net pension liability and the pension expense on their financial statements. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the liability and investment experience.

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a Statement of Fiduciary Net Position and a Statement of Changes in Fiduciary Net Position in accordance with GASB Statement No. 67. The *Statement of Fiduciary Net Position* presents the assets and liabilities of the pension plan at the end of the pension plan's reporting period. The *Statement of Changes in Fiduciary Net Position* presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expenses, and net increase or decrease in the fiduciary net position.

## Notes to Financial Statements

GASB Statement No. 68 requires the notes to the employer's financial statements to disclose the total pension expense, the pension plan's liabilities and assets, and deferred outflows and inflows of resources related to pensions.

Both GASB Statements No. 67 and No. 68 require the notes to the financial statements for the employers and pension plans to include certain descriptive information about the pension plans through which the pension benefits are provided. The list of disclosure items should include:

- a description of benefits provided by the plan;
- the classes of employees and number of members covered by the pension plan;
- a description of the plan's funding policy, which includes member and employer contribution requirements;
- the pension plan's investment policies;
- the pension plan's fiduciary net position, net pension liability, and the pension plan's fiduciary net position as a percentage of the total pension liability;
- the net pension liability using a discount rate that is 1% higher and 1% lower than the current discount rate used to calculate the total pension liability and net pension liability for financial reporting purposes;
- significant assumptions and methods used to calculate the total pension liability;
- inputs to the discount rates; and
- certain information about mortality assumptions and the dates of experience studies.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with Statement No. 67. This information includes:

- the composition of the pension plan's Board and the authority under which benefit terms may be amended;
- a description of how fair value is determined;
- information regarding certain reserves and investments, which include concentrations of investments greater than or equal to 5%, receivables, and insurance contracts excluded from plan assets; and
- annual money-weighted rate of return.

**Required Supplementary Information**

GASB Statement No. 67 requires a 10-year fiscal history of:

- sources of changes in the net pension liability;
- information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; and
- comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

**Timing of the Valuation**

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2014 and a measurement date of June 30, 2014.

**Single Discount Rate**

Projected benefit payments are required to be discounted to their actuarial present values using a single discount rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the long-term expected rate of return on pension plan investments is 7.90%; the municipal bond rate is 4.29% (based on the weekly rate closest to but not later than the measurement date of the 20-Year Bond Buyer Index as published by the Federal Reserve Board); and the resulting single discount rate is 7.90%.

**Effective Date and Transition**

GASB Statements No. 67 and No. 68 are effective for fiscal years beginning after June 15, 2013, and June 15, 2014 respectively. Earlier application is encouraged by the GASB.

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**SECTION B**

FINANCIAL STATEMENTS

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**PENSION EXPENSE UNDER GASB STATEMENT NO. 68**  
Fiscal Year Ended June 30, 2014 *(Dollars in Thousands)*

**A. Expense**

1. Service Cost	\$	26,488
2. Interest on the Total Pension Liability		33,955
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(10,030)
5. Projected Earnings on Plan Investments (made negative for addition here)		(29,647)
6. Pension Plan Administrative Expense		236
7. Other Changes in Plan Fiduciary Net Position		1
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		(9,874)
9. Recognition of Outflow (Inflow) of Resources due to Assets		(7,961)
<b>10. Total Pension Expense/ (Income)</b>	<b>\$</b>	<b>3,168</b>

**STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM  
CURRENT REPORTING PERIOD**

Fiscal Year Ended June 30, 2014 *(Dollars in Thousands)*

**A. Outflows (Inflows) of Resources due to Liabilities**

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ (5,327)
2. Assumption Changes (gains) or losses	\$ (34,168)
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years }	4.0000
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the difference between expected and actual experience of the Total Pension Liability	\$ (1,332)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ (8,542)
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	<u>\$ (9,874)</u>
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the difference between expected and actual experience of the Total Pension Liability	\$ (3,995)
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$ (25,626)
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	<u>\$ (29,621)</u>

**B. Outflows (Inflows) of Resources due to Assets**

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ (39,804)
2. Recognition period for Assets {in years }	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	\$ (7,961)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ (31,843)

**STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM  
CURRENT AND PRIOR REPORTING PERIODS**  
Fiscal Year Ended June 30, 2014 *(Dollars in Thousands)*

**A. Outflows and Inflows of Resources due to Liabilities and Assets to be recognized in Current Pension Expense**

	<u>Outflows of Resources</u>	<u>Inflows of Resources</u>	<u>Net Outflows of Resources</u>
1. Due to Liabilities	\$ -	\$ 9,874	\$ (9,874)
2. Due to Assets	-	7,961	(7,961)
<b>3. Total</b>	<b>\$ 0</b>	<b>\$ 17,835</b>	<b>\$ (17,835)</b>

**B. Outflows and Inflows of Resources by Source to be recognized in Current Pension Expense**

	<u>Outflows of Resources</u>	<u>Inflows of Resources</u>	<u>Net Outflows of Resources</u>
1. Differences between expected and actual experience	\$ -	\$ 1,332	\$ (1,332)
2. Assumption Changes	-	8,542	(8,542)
3. Net Difference between projected and actual earnings on pension plan investments	-	7,961	(7,961)
<b>4. Total</b>	<b>\$ 0</b>	<b>\$ 17,835</b>	<b>\$ (17,835)</b>

**C. Deferred Outflows and Deferred Inflows of Resources by Source to be recognized in Future Pension Expenses**

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>	<u>Net Deferred Outflows of Resources</u>
1. Differences between expected and actual experience	\$ -	\$ 3,995	\$ (3,995)
2. Assumption Changes	-	25,626	(25,626)
3. Net Difference between projected and actual earnings on pension plan investments	-	31,843	(31,843)
<b>4. Total</b>	<b>\$ 0</b>	<b>\$ 61,464</b>	<b>\$ (61,464)</b>

**D. Deferred Outflows and Deferred Inflows of Resources by Year to be recognized in Future Pension Expenses**

<u>Year Ending June 30</u>	<u>Net Deferred Outflows of Resources</u>
2015	\$ (17,835)
2016	(17,835)
2017	(17,834)
2018	(7,960)
2019	0
Thereafter	0
<b>Total</b>	<b>\$ (61,464)</b>

**STATEMENT OF FIDUCIARY NET POSITION**  
as of June 30, 2014 *(Dollars in Thousands)*

<b>Assets in Trust</b>	<b>Market Value</b>	
	<b>June 30, 2014</b>	<b>June 30, 2013</b>
Cash, equivalents, short term securities	\$ 12,591	\$ 10,314
Fixed income	105,666	84,021
Equity	277,713	219,130
SBI Alternative	57,118	53,048
Other	0	0
<b>Total Assets in Trust</b>	<b>\$ 453,088</b>	<b>\$ 366,513</b>
Assets Receivable	400	461
Amounts Payable	(256)	(224)
<b>Net Position Restricted for Pensions</b>	<b>\$ 453,232</b>	<b>\$ 366,750</b>

**STATEMENT OF CHANGES IN FIDUCIARY NET POSITION**  
for Year Ended June 30, 2014 *(Dollars in Thousands)*

<u>Change in Assets</u>		<u>Market Value</u>	
<u>Year Ending</u>		<u>June 30, 2014</u>	<u>June 30, 2013</u>
1.	Fund balance at market value at beginning of year	\$ 366,750	\$ 305,408
2.	Contributions		
	a. Member	10,030	9,609
	b. Employer	15,054	14,498
	c. Other sources	<u>0</u>	<u>0</u>
	d. Total contributions	25,084	24,107
3.	Investment income		
	a. Investment income/(loss)	70,079	44,879
	b. Investment expenses	<u>(628)</u>	<u>(501)</u>
	c. Net subtotal	69,451	44,378
4.	Other	<u>0</u>	<u>0</u>
<b>5.</b>	<b>Total additions: (2.d.) + (3.c.) + (4.)</b>	<b>\$ 94,535</b>	<b>\$ 68,485</b>
6.	Benefits Paid		
	a. Annuity benefits	(6,711)	(5,757)
	b. Refunds	<u>(1,105)</u>	<u>(1,177)</u>
	c. Total benefits paid	(7,816)	(6,934)
7.	Expenses		
	a. Other	(1)	0
	b. Administrative	<u>(236)</u>	<u>(209)</u>
	c. Total expenses	(237)	(209)
<b>8.</b>	<b>Total deductions: (6.c.) + (7.c.)</b>	<b>(8,053)</b>	<b>(7,143)</b>
9.	Net increase (decrease) in net position: (5) + (8)	86,482	61,342
<b>10.</b>	<b>Net position restricted for pensions</b>	<b>\$ 453,232</b>	<b>\$ 366,750</b>
11.	Approximate return on market value of assets	18.4%	14.0%

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**SECTION C**

REQUIRED SUPPLEMENTARY INFORMATION

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**SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS  
CURRENT PERIOD**

Fiscal Year Ended June 30, 2014 (*Dollars in Thousands*)

<b>A. Total pension liability</b>	
1. Service Cost	\$ 26,488
2. Interest on the Total Pension Liability	33,955
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the Total Pension Liability	(5,327)
5. Changes of assumptions	(34,168)
6. Benefit payments, including refunds of employee contributions	(7,816)
7. Net change in total pension liability	\$ 13,132
8. Total pension liability – beginning	447,644
9. Total pension liability – ending	<u><u>\$ 460,776</u></u>
<b>B. Plan fiduciary net position</b>	
1. Contributions – employer	\$ 15,054
2. Contributions – employee	10,030
3. Net investment income	69,451
4. Benefit payments, including refunds of employee contributions	(7,816)
5. Pension Plan Administrative Expense	(236)
6. Other	(1)
7. Net change in plan fiduciary net position	\$ 86,482
8. Plan fiduciary net position – beginning	366,750
9. Plan fiduciary net position – ending	<u><u>\$ 453,232</u></u>
<b>C. Net pension liability</b>	<u><u>\$ 7,544</u></u>
<b>D. Plan fiduciary net position as a percentage of the total pension liability</b>	<b>98.36%</b>
<b>E. Covered-employee payroll</b>	\$ <b>172,041</b>
<b>F. Net pension liability as a percentage of covered employee payroll</b>	<b>4.39%</b>

## SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION

### Schedule of Changes in Net Pension Liability and Related Ratios Multiyear (*Dollars in Thousands*)

#### Last 10 Fiscal Years (which may be built prospectively)

Fiscal year ending June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
<b>Total Pension Liability</b>										
Service Cost	\$ 26,488									
Interest on the Total Pension Liability	33,955									
Benefit Changes	-									
Difference between Expected and Actual Experience	(5,327)									
Assumption Changes	(34,168)									
Benefit Payments	(6,711)									
Refunds	(1,105)									
<b>Net Change in Total Pension Liability</b>	<b>13,132</b>									
<b>Total Pension Liability - Beginning</b>	<b>447,644</b>									
<b>Total Pension Liability - Ending (a)</b>	<b>\$ 460,776</b>									
<b>Plan Fiduciary Net Position</b>										
Employer Contributions	\$ 15,054									
Employee Contributions	10,030									
Pension Plan Net Investment Income	69,451									
Benefit Payments	(6,711)									
Refunds	(1,105)									
Pension Plan Administrative Expense	(236)									
Other	(1)									
<b>Net Change in Plan Fiduciary Net Position</b>	<b>86,482</b>									
<b>Plan Fiduciary Net Position - Beginning</b>	<b>366,750</b>									
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 453,232</b>									
<b>Net Pension Liability - Ending (a) - (b)</b>	<b>7,544</b>									
<b>Plan Fiduciary Net Position as a Percentage of Total Pension Liability</b>	<b>98.36 %</b>									
<b>Covered Employee Payroll</b>	<b>\$ 172,041</b>									
<b>Net Pension Liability as a Percentage of Covered Employee Payroll</b>	<b>4.39 %</b>									
<b>Notes to Schedule:</b>										
N/A										

**SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION**  
**Schedule of the Net Pension Liability Multiyear (*Dollars in Thousands*)**  
**Last 10 Fiscal Years (which may be built prospectively)**

<b>FY Ending June 30,</b>	<b>Total Pension Liability</b>	<b>Plan Net Position</b>	<b>Net Pension Liability</b>	<b>Plan Net Position as a % of Total Pension Liability</b>	<b>Covered Payroll</b>	<b>Net Pension Liability as a % of Covered Payroll</b>
2005			\$ -			
2006			-			
2007			-			
2008			-			
2009			-			
2010			-			
2011			-			
2012			-			
2013			-			
2014	\$ 460,776	\$ 453,232	\$ 7,544	98.36%	\$ 172,041	4.39%

**SCHEDULE OF CONTRIBUTIONS MULTIYEAR (*DOLLARS IN THOUSANDS*)**  
**Last 10 Fiscal Years**

<b>FY Ending June 30,</b>	<b>Actuarially Determined Contribution</b>	<b>Actual Contribution</b>	<b>Contribution Deficiency (Excess)</b>	<b>Covered Payroll</b>	<b>Actual Contribution as a % of Covered Payroll</b>
2005	\$ 8,068	\$ 10,814	\$ (2,746)	\$ 116,849	9.25%
2006	8,507	11,826	(3,319)	125,189	9.45
2007	8,712	12,499	(3,787)	134,117	9.32
2008	10,153	13,388	(3,235)	154,202	8.68
2009	11,469	14,124	(2,655)	154,650	9.13
2010	12,273	14,170	(1,897)	154,777	9.16
2011	12,183	14,289	(2,106)	165,077	8.66
2012	12,473	14,320	(1,847)	164,340	8.71
2013	14,207	14,498	(291)	164,820	8.80
2014	14,606	15,054	(448)	172,041	8.75

**NOTES TO SCHEDULE OF CONTRIBUTIONS**

**Valuation Date:** June 30, 2014  
Notes Actuarially determined contribution rates are calculated as of each July 1.

**Methods and Assumptions Used to Determine Contribution Rates:**

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage of Payroll, Closed
Remaining Amortization Period	17 years
Asset Valuation Method	5-Year smoothed market; no corridor
Inflation	3.00%
Salary Increases	4.00% to 9.00% including inflation
Investment Rate of Return	8.00% through June 30, 2017; 8.50% thereafter
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2012 valuation pursuant to an experience study of the period 2006 - 2011, prepared by a former actuary.
Mortality	RP-2000 annuitant generational mortality table, projected with scale AA, white collar adjustment.

**Other Information:**

Notes The plan is assumed to pay a 2.5% post-retirement benefit increase for all years.  
See separate funding report as of July 1, 2014 for additional detail.

**SCHEDULE OF INVESTMENT RETURNS MULTIYEAR**  
**Last 10 Fiscal Years**

<b>FY Ending June 30,</b>	<b>Annual Return<sup>1</sup></b>
2005	
2006	
2007	
2008	
2009	
2010	
2011	
2012	
2013	
2014	

<sup>1</sup> Annual money-weighted rate of return, net of investment expenses.

It is our understanding that this exhibit will be prepared by PERA with assistance from the State Board of Investment. Please provide a copy of the final exhibit for our files.

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**SECTION D**

ADDITIONAL FINANCIAL STATEMENT DISCLOSURES

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## Asset Allocation

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic Fixed Income		
International Fixed Income		
Domestic Equity		
International Equity		
Private Equity		
Real Estate		
Commodities		
Cash		
<b>Total</b>		

It is our understanding that this exhibit will be prepared by PERA with assistance from the State Board of Investment. Please provide a copy of the final exhibit for our files.

### **Single Discount Rate**

A single discount rate of 7.90% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 7.90%. The projection of cash flows used to determine this single discount rate assumed that plan member and employer contributions will be made at the current statutory contribution rates. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the single discount rate, the following presents the plan's net pension liability, calculated using a single discount rate of 7.90%, as well as what the plan's net pension liability would be if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher:

### **Sensitivity of Net Pension Liability to the Single Discount Rate Assumption**

*(Dollars in Thousands)*

<b>1% Decrease</b>	<b>Current Single Discount Rate Assumption</b>	<b>1% Increase</b>
<b>6.90%</b>	<b>7.90%</b>	<b>8.90%</b>
\$92,907	\$7,544	(\$60,632)

**GASB STATEMENT NO. 68 RECONCILIATION** (*Dollars in Thousands*)

	<b>Total Pension Liability (a)</b>	<b>Plan Fiduciary Net Position (b)</b>	<b>Net Pension Liability (a) - (b)</b>	<b>Deferred Outflows</b>	<b>Deferred Inflows</b>	<b>Pension Expense</b>
<b>Balance Beginning of Year</b>	<b>\$ 447,644</b>	<b>\$ 366,750</b>	<b>\$ 80,894</b>			
<b>Changes for the Year:</b>						
Service Cost	\$ 26,488		\$ 26,488			\$ 26,488
Interest on Total Pension Liability	33,955		33,955			33,955
Interest on Fiduciary Net Position		\$ 29,647	(29,647)			(29,647)
Changes in Benefit Terms	-		-			-
Liability Experience Gains and Losses	(5,327)		(5,327)	\$ -	\$ 3,995	(1,332)
Changes in Assumptions	(34,168)		(34,168)	-	25,626	(8,542)
Contributions - Employer		15,054	(15,054)			
Contributions - Employees		10,030	(10,030)			(10,030)
Asset Gain/(Loss)		39,804	(39,804)	-	31,843	(7,961)
Benefit Payouts	(7,816)	(7,816)	-			-
Administrative Expenses		(236)	236			236
Other		(1)	1			1
<b>Net Changes</b>	<b>\$ 13,132</b>	<b>\$ 86,482</b>	<b>\$ (73,350)</b>	<b>\$ -</b>	<b>\$ 61,464</b>	<b>\$ 3,168</b>
<b>Balance End of Year</b>	<b>\$ 460,776</b>	<b>\$ 453,232</b>	<b>\$ 7,544</b>	<b>\$ -</b>	<b>\$ 61,464</b>	

### SUMMARY OF POPULATION STATISTICS

	Terminated			Recipients			Total
	Actives	Deferred Retirement	Other Non-Vested	Service Retirement	Disability Retirement	Survivor	
<b>Members on 7/1/2013</b>	<b>3,493</b>	<b>2,232</b>	<b>1,816</b>	<b>503</b>	<b>156</b>	<b>31</b>	<b>8,231</b>
New members	497	0	0	0	0	0	497
Return to active	28	(13)	(15)	0	0	0	0
Terminated non-vested	(140)	0	140	0	0	0	0
Service retirements	(47)	(23)	0	70	0	0	0
Terminated deferred	(174)	174	0	0	0	0	0
Terminated refund/transfer	(47)	(43)	(28)	0	0	0	(118)
Deaths	(2)	(1)	(1)	(4)	(1)	0	(9)
New beneficiary	0	0	0	0	0	6	6
Disabled	(5)	0	0	0	5	0	0
Data correction	0	54	24	2	2	(1)	81
Net change	110	148	120	68	6	5	457
<b>Members on 6/30/2014</b>	<b>3,603</b>	<b>2,380</b>	<b>1,936</b>	<b>571</b>	<b>162</b>	<b>36</b>	<b>8,688</b>

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## **SECTION E**

### SUMMARY OF BENEFITS

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## Summary of Plan Provisions

Following is a summary of the major plan provisions used in the valuation of this report. PERA is solely responsible for the validity, accuracy and comprehensiveness of this information. If any of the plan provisions shown below are not accurate and complete, the valuation results may differ significantly from those shown in this report and may require a revision of this report.

Plan year	July 1 through June 30.				
Eligibility	Local government employees in covered correctional service for a county administered jail or correctional facility or in a regional correctional facility administered by multiple counties, who are directly responsible for security, custody and control of persons confined in jail or facility, who are expected to respond to incidents within the jail or facility, and who are not members of the Public Employees Police and Fire Fund.				
Contributions	Shown as a percent of salary:  <table> <tr> <td><u>Member</u></td> <td>5.83%</td> </tr> <tr> <td><u>Employer</u></td> <td>8.75%</td> </tr> </table> <p>Member contributions are “picked up” according to the provisions of Internal Revenue Code 414(h).</p>	<u>Member</u>	5.83%	<u>Employer</u>	8.75%
<u>Member</u>	5.83%				
<u>Employer</u>	8.75%				
Allowable service	Local Government Correctional Service during which member contributions were made (effective July 1, 1999). May also include certain leaves of absence, military service and periods while temporary Worker’s Compensation is paid.				
Salary	Includes amounts deducted for deferred compensation or supplemental retirement plans, net income from fees and sick leave payments funded by the employer. Excludes unused annual leaves and sick leave payments, severance payments, Workers’ Compensation benefits and employer-paid flexible spending accounts, cafeteria plans, healthcare expense accounts, day-care expenses, fringe benefits and the cost of insurance coverage.				
Average salary	Average of the five highest successive years of salary. Average Salary is based on all Allowable Service if less than five years.				
Vesting	Hired before July 1, 2010: 100% vested after 3 years of Allowable Service. Hired after June 30, 2010: 50% vested after 5 years of Allowable Service; 60% vested after 6 years of Allowable Service; 70% vested after 7 years of Allowable Service; 80% vested after 8 years of Allowable Service; 90% vested after 9 years of Allowable Service; 100% vested after 10 years of Allowable Service.				

### Retirement

#### Normal retirement benefit

Age/service requirement	Age 55 and vested. Proportionate Retirement Annuity is available at age 65 and one year of Allowable Service.
Amount	1.9% of Average Salary for each year of Allowable Service, pro rata for completed months.

## Summary of Plan Provisions (Continued)

### Retirement (Continued)

#### Early Retirement

Age/service requirement Age 50 and vested.

Amount Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date with actuarial reduction to commencement age assuming 3% augmentation to age 55 (2.50% if hired after June 30, 2006).

#### Form of payment

Life annuity. Actuarially equivalent options are:

25%, 50%, 75% or 100% Joint and Survivor. If a Joint and Survivor benefit is elected and the beneficiary predeceases the annuitant, the annuitant's benefit increases to the Life Annuity amount. This "bounce back" is subsidized by the plan.

#### Benefit increases

Benefit recipients received a post-retirement benefit increase of 1.0% on January 1, 2013 and January 1, 2014. If the actuarial accrued liability funding ratio (on a market value of assets basis) reaches 90% for two consecutive years, the benefit increase will revert to 2.5%. If, after reverting to a 2.5% benefit increase, the funding ratio declines to less than 80% for one year or less than 85% for two consecutive years, the benefit increase will decrease to 1.0%.

A benefit recipient who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Members receiving benefits for at least one month but less than 12 full months as of June 30 will receive a pro rata increase.

### Disability

#### Duty Disability

Age/service requirement Member who cannot perform his duties as a direct result of a disability relating to an act of duty specific to protecting the property and personal safety of others.

Amount 47.50% of Average Salary plus 1.90% of Average Salary for each year in excess of 25 years of Allowable Service (pro rata for completed months).

Payment begins at disability and ends at age 65 or earlier if disability ceases or death occurs. Benefits may be paid upon re-employment but salary plus benefit cannot exceed current salary of position held at time of disability.

#### Regular Disability

Age/service requirement At least one year of Allowable Service and a disability preventing member from performing normal duties that arise out of activities not related to covered employment or while at work, activities related to duties that do not present inherent dangers specific to occupation.

## Summary of Plan Provisions (Continued)

### Disability (Continued)

Amount Normal Retirement Benefit based on Allowable Service (minimum of 10 years) and Average Salary at disability.

Payment begins at disability and ends at age 65 or earlier if disability ceases or death occurs. Benefits may be paid upon re-employment but salary plus benefit cannot exceed current salary of position held at time of disability.

### Retirement benefit

Age/service requirement Age 65 with continued disability.

Amount Any optional annuity continues. Otherwise, the larger of the disability benefit paid before age 65 or the normal retirement benefit available at age 65, or an actuarially equivalent optional annuity.

Form of payment Same as for retirement.

Benefit increases Same as for retirement.

### Death

#### Surviving spouse benefit

Age/service requirement Vested active member at any age or vested former member age 50 or older who dies before retirement or disability benefit commences. If an active member dies, benefits may commence immediately, regardless of age.

Amount Surviving spouse receives the 100% joint and survivor benefit using the Normal Retirement formula above. If commencement is prior to age 55, the appropriate early retirement formula described above applies except that one-half the monthly reduction factor is used from age 50 to the commencement age. In lieu of this benefit, the surviving spouse may elect a refund of contributions with interest or an actuarially equivalent term certain annuity (lump sum payable to estate at death).

Benefit increases Same as for retirement.

#### Surviving dependent children's benefit

Age/service requirement If no surviving spouse, all dependent children (biological or adopted) below age 20 who are dependent for more than half of their support on deceased member.

Amount Actuarially equivalent to surviving spouse 100% joint and survivor annuity payable to the later of age 20 or five years. The amount is to be proportionally divided among surviving children.

#### Refund of contributions

Age/service requirement Active employee dies and survivor benefits paid are less than member's contributions or a former employee dies before annuity begins.

## Summary of Plan Provisions (Continued)

### Death (Continued)

Amount If no survivor benefits are paid, the member's contributions with 6.00% interest until June 30, 2011; 4.00% interest thereafter. If survivor benefits are paid and accumulated contributions exceed total payments to the surviving spouse and children, then the remaining contributions are paid out.

### Termination

#### Refund of contributions

Age/service requirement Termination of local government service.

Amount If member terminated before July 1, 2011, member's contributions with 6.00% interest compounded annually until June 30, 2011; 4.00% interest thereafter. If member terminated after June 30, 2011, member's contributions credited with 4% interest compounded annually.

#### Deferred benefit

Age/service requirement A deferred annuity may be elected in lieu of a refund if vested.

Partially or fully vested.

Amount Benefit computed under law in effect at termination and increased by the following percentage (augmentation), compounded annually, if termination of employment is prior to January 1, 2012:

- (a.) 3.00% (2.50% if hired after June 30, 2006) until the earlier of January 1 of the year following attainment of age 55 and January 1, 2012;
- (b.) 5.00% (2.50% if hired after June 30, 2006) thereafter until the earlier of the date the annuity begins and January 1, 2012; and
- (c.) 1.00% from January 1, 2012 thereafter.

If a member terminates employment after 2011, they are not eligible for augmentation.

#### Form of payment

Same as for retirement.

### **Optional form conversion factors**

Actuarially equivalent factors based on the RP-2000 mortality table for healthy annuitants, white collar adjustment, projected to 2026 using scale AA, no setbacks, blended 65% males and 6.0% interest. The interest rate assumption will change to 6.5% on the earlier of the effective date of the next mortality adjustment or July 1, 2017.

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**Summary of Plan Provisions (Concluded)**

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**Combined service annuity**

Members are eligible for combined service benefits if they:

- (a.) Meet minimum retirement age for each plan participated in and total public service meets the vesting requirements of each plan;
- or
- (b.) Have three or more years of service under PERA and the covered fund(s) (if hired prior to July 1, 2010).

Other requirements for combined service include:

- (a.) Member must have at least six months of allowable service credit in each plan worked under; and
- (b.) Member may not be in receipt of a benefit from another plan.

Members who meet the above requirements must have their benefit based on the following:

- (a.) Allowable service in all covered plans are combined in order to determine eligibility for early retirement.
- (b.) Average salary is based on the high five consecutive years during their entire service in all covered plans.

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**Changes in plan provisions**

The interest assumption used to determine optional form conversion factors was changed (with a future effective date).

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**SECTION F**

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

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## **Actuarial Methods**

### **Actuarial Cost Method**

Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using an **Individual Entry-Age Actuarial Cost Method** having the following characteristics:

- (i) the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement; and
- (ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Actuarial gains/(losses), as they occur, reduce (increase) the Total Pension Liability.

### **Valuation of Future Post-Retirement Benefit Increases**

Benefit recipients receive a future annual 2.5% post-retirement benefit increase. If the funding ratio declines to less than 80% for one year or less than 85% for two consecutive years, the benefit increase will decrease to 1.0%.

Based on the assumptions and methods in this report, this plan is expected to pay the 2.5% benefit increases indefinitely.

### **Decrement Timing**

All decrements are assumed to occur mid-year.

### **Asset Valuation Method**

Fair value of assets.

## Summary of Actuarial Assumptions

The following assumptions were used in valuing the liabilities and benefits under the Plan. All demographic actuarial assumptions are prescribed by Minnesota Statutes, the Legislative Commission on Pensions and Retirement (LCPR), or the Board of Trustees. The demographic assumptions prescribed are based on the last experience study, dated February 2012, prepared by a former actuary. The economic assumptions are based on a review of inflation and investment return assumptions dated September 11, 2014.

The Allowance for Combined Service Annuity was also based on a recommendation by a former actuary. We are unable to judge the reasonableness of this assumption without performing a substantial amount of additional work beyond the scope of the assignment.

Investment return	7.90% per annum.								
Benefit increases after retirement	2.50% per annum.								
Salary increases	Reported salary at valuation date increased according to the rate table, to current fiscal year and annually for each future year. Prior fiscal year salary is annualized for members with less than one year of service earned during the year.								
Payroll growth	3.50% per year.								
Mortality rates									
Healthy pre-retirement	RP-2000 employee generational mortality table projected with scale AA, white collar adjustment.								
Healthy post-retirement	RP-2000 annuitant generational mortality table projected with scale AA, white collar adjustment.								
	The RP-2000 employee mortality table as published by the Society of Actuaries (SOA) contains mortality rates for ages 15 to 70 and the annuitant mortality table contains mortality rates for ages 50 to 95. We have applied the annuitant mortality table for active members beyond age 70 until the assumed retirement age and the employee mortality table for annuitants younger than age 50.								
Disabled	RP-2000 disabled mortality table.								
Retirement	Members retiring from active status are assumed to retire according to the age related rates shown in the rate table. Members who have attained the highest assumed retirement age are assumed to retire in one year.								
Withdrawal	Select and Ultimate rates based on actual experience. Ultimate rates after the third year are shown in rate table. Select rates in the first three years are:								
	<table border="1"> <thead> <tr> <th><u>Year</u></th> <th><u>Select Withdrawal Rates</u></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>25%</td> </tr> <tr> <td>2</td> <td>20%</td> </tr> <tr> <td>3</td> <td>15%</td> </tr> </tbody> </table>	<u>Year</u>	<u>Select Withdrawal Rates</u>	1	25%	2	20%	3	15%
<u>Year</u>	<u>Select Withdrawal Rates</u>								
1	25%								
2	20%								
3	15%								

## Summary of Actuarial Assumptions (Continued)

Disability	Age-related rates based on experience; see table of sample rates. All incidences are assumed to be duty-related.
Allowance for combined service annuity	Liabilities for former members are increased by 30.00% to account for the effect of some participants having eligibility for a Combined Service Annuity.
Administrative expenses	Total prior year administrative expenses expressed as a percentage of prior year projected payroll are assumed to increase 3.50% per year and are allocated to the closed group based on the ratio of closed group payroll to total payroll.
Refund of contributions	Account balances accumulate interest until normal retirement date and are discounted back to the valuation date. All employees withdrawing after becoming eligible for a deferred benefit take the larger of their contributions accumulated with interest or the value of their deferred benefit.
Commencement of deferred benefits	Members receiving deferred annuities (including current terminated deferred members) are assumed to begin receiving benefits at age 55.
Percentage married	85% of active members are assumed to be married. Actual marital status is used for members in payment status.
Age of spouse	Females are assumed to be three years younger than their male spouses. For members in payment status, actual spouse date of birth is used, if provided.
Eligible Children	Retiring members are assumed to have no dependent children.
Form of payment	<p>Married members retiring from active status are assumed to elect subsidized joint and survivor form of annuity as follows:</p> <p>Males:           5% elect 25% Joint &amp; Survivor option                          10% elect 50% Joint &amp; Survivor option                          10% elect 75% Joint &amp; Survivor option                          35% elect 100% Joint &amp; Survivor option</p> <p>Females:        5% elect 25% Joint &amp; Survivor option                          5% elect 50% Joint &amp; Survivor option                          5% elect 75% Joint &amp; Survivor option                          5% elect 100% Joint &amp; Survivor option</p> <p>Remaining married members and unmarried members are assumed to elect the Straight Life option.</p> <p>Members receiving deferred annuities (including current terminated deferred members) are assumed to elect a straight life annuity.</p>
Eligibility testing	Eligibility for benefits is determined based upon the age nearest birthday and service on the date the decrement is assumed to occur.
Decrement operation	Withdrawal decrements do not operate during retirement eligibility.
Service credit accruals	It is assumed that members accrue one year of service credit per year.

## Summary of Actuarial Assumptions (Continued)

Unknown data for certain members

To prepare this report, GRS has used and relied on participant data supplied by the Fund. Although GRS has reviewed the data in accordance with Actuarial Standards of Practice No. 23, GRS has not verified or audited any of the data or information provided.

In cases where submitted data was missing or incomplete, the following assumptions were applied:

### Data for active members:

There were 45 members reported with zero salary. We used prior year salary (39 members), if available; otherwise high five salary with a 10% load to account for salary increases (4 members). If neither prior year salary or high five salary was available, we assumed a value of \$35,000 (3 members).

There were also 38 members reported without a gender and 1 member reported without a date of birth. We assumed a date of birth of July 1, 1974 and male gender.

### Data for terminated members:

We calculated benefits for these members using the reported Average Salary and credited service. There were no members reported without Average Salary. If credited service was not reported (33 members), we used elapsed time from hire date to termination date (19 members), otherwise we assumed nine years of service (14 members). If termination date was not reported (15 members), we assumed the termination date was equal to the hire date plus credited service, otherwise the valuation date.

There were no members reported without a date of birth. There was 1 member reported without a gender; male was assumed.

### Data for retired members:

There were no members reported without a date of birth, gender or benefit.

Changes in actuarial assumptions

The single discount rate was changed from 7.43% to 7.90%.

**Summary of Actuarial Assumptions (Continued)**

Age	Rate (%)*					
	Healthy		Healthy		Disability	
	Post-Retirement Mortality**		Pre-Retirement Mortality**		Mortality	
	Male	Female	Male	Female	Male	Female
20	0.03%	0.02%	0.03%	0.02%	2.26%	0.75%
25	0.04	0.02	0.04	0.02	2.26	0.75
30	0.04	0.03	0.04	0.03	2.26	0.75
35	0.06	0.05	0.06	0.05	2.26	0.75
40	0.09	0.06	0.09	0.06	2.26	0.75
45	0.13	0.10	0.13	0.10	2.26	0.75
50	0.60	0.24	0.20	0.16	2.90	1.15
55	0.54	0.35	0.27	0.24	3.54	1.65
60	0.66	0.56	0.43	0.38	4.20	2.18
65	1.16	0.91	0.67	0.59	5.02	2.80
70	1.93	1.52	0.98	0.88	6.26	3.76

\* Generally, mortality rates are expected to increase as age increases. Due to the combination of pre-retirement rates, post-retirement rates, the white collar adjustment, and Projection Scale AA, the prescribed mortality tables have a few ages where assumed mortality decreases slightly instead of increases. We have used the rates as prescribed, but note that the prescribed assumption may not be reasonable at every age. If the rates were reasonably adjusted so that they decreased at all ages, we would not expect the valuation results to be materially different.

\*\* These rates were adjusted for mortality improvements using Projection Scale AA.

Age	Withdrawal Rates		Disability Retirement	
	Male	Female	Male	Female
20	14.70%	14.20%	0.04%	0.04%
25	14.70%	14.20%	0.06%	0.06%
30	9.10%	11.40%	0.10%	0.08%
35	6.00%	8.60%	0.18%	0.11%
40	4.40%	6.90%	0.23%	0.18%
45	3.40%	4.30%	0.34%	0.39%
50	2.40%	3.10%	0.55%	0.70%
55	1.40%	2.20%	0.88%	1.18%
60	0.00%	0.00%	1.41%	2.41%
65	0.00%	0.00%	1.67%	2.67%

### Summary of Actuarial Assumptions (Concluded)

		<b>Salary Scale</b>	
<b>Age</b>	<b>Retirement</b>	<b>Age</b>	<b>Increase</b>
50	3%	20	8.75%
51	2	25	7.50
52	2	30	6.50
53	2	35	6.00
54	5	40	5.50
55	20	45	4.75
56	8	50	4.75
57	8	55	4.50
58	8	60	4.00
59	8	65	3.75
60	15	70+	3.75
61	15		
62	30		
63	30		
64	30		
65	40		
66	40		
67	40		
68	40		
69	40		
70+	100		

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## **SECTION G**

### **CALCULATION OF THE SINGLE DISCOUNT RATE**

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## CALCULATION OF THE SINGLE DISCOUNT RATE

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the Fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the long-term expected rate of return is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a “risk-free” rate is required, as described in the following paragraph.

The *Single Discount Rate* (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this calculation, the expected rate of return on pension plan investments is 7.90%; the municipal bond rate is 4.29%; and the resulting single discount rate is 7.90%.

The tables in this section provide background for the development of the single discount rate.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities).

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the Single Discount Rate (SDR). It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

We performed a similar analysis as of July 1, 2013. Based on an expected rate of return of 7.90% and a municipal bond rate of 4.63%, the plan is projected to have sufficient assets to pay benefits through the year 2065. **The resulting single discount rate as of July 1, 2013 is 7.43%.**

**SINGLE DISCOUNT RATE DEVELOPMENT**  
**Projection of Contributions (*Dollars in Thousands*)**

Year	Payroll			Projected Contributions			
	Payroll for Current Employees	Payroll for New Employees	Total Employee Payroll	Contributions from Current Employees	Employer Contributions for Current Employees	Contributions on Future Payroll toward current UAL*	Total Contributions
0	\$ 172,041	\$ -	\$ 172,041				
1	181,922	-	181,922	\$ 10,606	\$ 15,918	\$ -	\$ 26,524
2	173,556	14,733	188,289	10,118	15,186	94	25,398
3	166,946	27,933	194,879	9,733	14,608	179	24,520
4	161,249	40,451	201,700	9,401	14,109	259	23,769
5	155,885	52,874	208,759	9,088	13,640	338	23,066
6	150,601	65,465	216,066	8,780	13,178	419	22,377
7	145,492	78,136	223,628	8,482	12,731	500	21,713
8	140,475	90,980	231,455	8,190	12,292	582	21,064
9	135,627	103,929	239,556	7,907	11,867	665	20,439
10	130,828	117,113	247,941	7,627	11,447	750	19,824
11	125,810	130,809	256,619	7,335	11,008	837	19,180
12	120,725	144,875	265,600	7,038	10,563	927	18,528
13	115,478	159,418	274,896	6,732	10,104	1,020	17,856
14	110,185	174,333	284,518	6,424	9,641	1,116	17,181
15	105,012	189,464	294,476	6,122	9,189	1,213	16,524
16	99,889	204,893	304,782	5,824	8,740	1,311	15,875
17	94,708	220,742	315,450	5,521	8,287	1,413	15,221
18	89,444	237,047	326,491	5,215	7,826	1,517	14,558
19	84,178	253,740	337,918	4,908	7,366	1,624	13,898
20	78,925	270,820	349,745	4,601	6,906	1,733	13,240
21	73,688	288,298	361,986	4,296	6,448	1,845	12,589
22	68,473	306,182	374,655	3,992	5,991	1,960	11,943
23	63,321	324,447	387,768	3,692	5,541	2,076	11,309
24	58,239	343,101	401,340	3,395	5,096	2,196	10,687
25	53,159	362,228	415,387	3,099	4,651	2,318	10,068
26	48,083	381,843	429,926	2,803	4,207	2,444	9,454
27	43,118	401,855	444,973	2,514	3,773	2,572	8,859
28	38,296	422,251	460,547	2,233	3,351	2,702	8,286
29	33,630	443,036	476,666	1,961	2,943	2,835	7,739
30	29,128	464,222	493,350	1,698	2,549	2,971	7,218
31	24,832	485,785	510,617	1,448	2,173	3,109	6,730
32	20,792	507,697	528,489	1,212	1,819	3,249	6,280
33	17,052	529,934	546,986	994	1,492	3,392	5,878
34	13,723	552,407	566,130	800	1,201	3,535	5,536
35	10,822	575,123	585,945	631	947	3,681	5,259
36	8,323	598,130	606,453	485	728	3,828	5,041
37	6,223	621,456	627,679	363	545	3,977	4,885
38	4,499	645,148	649,647	262	394	4,129	4,785
39	3,140	669,245	672,385	183	275	4,283	4,741
40	2,103	693,815	695,918	123	184	4,440	4,747
41	1,347	718,929	720,276	79	118	4,601	4,798
42	832	744,653	745,485	48	73	4,766	4,887
43	492	771,085	771,577	29	43	4,935	5,007
44	279	798,303	798,582	16	24	5,109	5,149
45	150	826,383	826,533	9	13	5,289	5,311
46	74	855,388	855,462	4	6	5,474	5,484
47	33	885,370	885,403	2	3	5,666	5,671
48	11	916,381	916,392	1	1	5,865	5,867
49	3	948,462	948,465	-	-	6,070	6,070
50	1	981,661	981,662	-	-	6,283	6,283

\*Contributions related to future employees in excess of normal cost and expenses of 13.94% of pay.

For purposes of this projection, based on GASB guidance, we assumed the current contribution rates would continue after the plan becomes fully funded. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.

**SINGLE DISCOUNT RATE DEVELOPMENT**  
**Projection of Contributions (*Dollars in Thousands*) (Concluded)**

Year	Payroll			Projected Contributions			
	Payroll for Current Employees	Payroll for New Employees	Total Employee Payroll	Contributions from Current Employees	Employer Contributions for Current Employees	Contributions on Future Payroll toward current UAL*	Total Contributions
51	-	1,016,020	1,016,020	\$ -	\$ -	\$ 6,503	\$ 6,503
52	-	1,051,581	1,051,581	-	-	6,730	6,730
53	-	1,088,386	1,088,386	-	-	6,966	6,966
54	-	1,126,479	1,126,479	-	-	7,209	7,209
55	-	1,165,906	1,165,906	-	-	7,462	7,462
56	-	1,206,713	1,206,713	-	-	7,723	7,723
57	-	1,248,948	1,248,948	-	-	7,993	7,993
58	-	1,292,661	1,292,661	-	-	8,273	8,273
59	-	1,337,904	1,337,904	-	-	8,563	8,563
60	-	1,384,731	1,384,731	-	-	8,862	8,862
61	-	1,433,196	1,433,196	-	-	9,172	9,172
62	-	1,483,358	1,483,358	-	-	9,493	9,493
63	-	1,535,276	1,535,276	-	-	9,826	9,826
64	-	1,589,011	1,589,011	-	-	10,170	10,170
65	-	1,644,626	1,644,626	-	-	10,526	10,526
66	-	1,702,188	1,702,188	-	-	10,894	10,894
67	-	1,761,764	1,761,764	-	-	11,275	11,275
68	-	1,823,426	1,823,426	-	-	11,670	11,670
69	-	1,887,246	1,887,246	-	-	12,078	12,078
70	-	1,953,300	1,953,300	-	-	12,501	12,501
71	-	2,021,665	2,021,665	-	-	12,939	12,939
72	-	2,092,423	2,092,423	-	-	13,392	13,392
73	-	2,165,658	2,165,658	-	-	13,860	13,860
74	-	2,241,456	2,241,456	-	-	14,345	14,345
75	-	2,319,907	2,319,907	-	-	14,847	14,847
76	-	2,401,104	2,401,104	-	-	15,367	15,367
77	-	2,485,143	2,485,143	-	-	15,905	15,905
78	-	2,572,123	2,572,123	-	-	16,462	16,462
79	-	2,662,147	2,662,147	-	-	17,038	17,038
80	-	2,755,322	2,755,322	-	-	17,634	17,634
81	-	2,851,758	2,851,758	-	-	18,251	18,251
82	-	2,951,570	2,951,570	-	-	18,890	18,890
83	-	3,054,875	3,054,875	-	-	19,551	19,551
84	-	3,161,795	3,161,795	-	-	20,235	20,235
85	-	3,272,458	3,272,458	-	-	20,944	20,944
86	-	3,386,994	3,386,994	-	-	21,677	21,677
87	-	3,505,539	3,505,539	-	-	22,435	22,435
88	-	3,628,233	3,628,233	-	-	23,221	23,221
89	-	3,755,221	3,755,221	-	-	24,033	24,033
90	-	3,886,654	3,886,654	-	-	24,875	24,875
91	-	4,022,687	4,022,687	-	-	25,745	25,745
92	-	4,163,481	4,163,481	-	-	26,646	26,646
93	-	4,309,203	4,309,203	-	-	27,579	27,579
94	-	4,460,025	4,460,025	-	-	28,544	28,544
95	-	4,616,126	4,616,126	-	-	29,543	29,543
96	-	4,777,690	4,777,690	-	-	30,577	30,577
97	-	4,944,909	4,944,909	-	-	31,647	31,647
98	-	5,117,981	5,117,981	-	-	32,755	32,755
99	-	5,297,110	5,297,110	-	-	33,902	33,902
100	-	5,482,509	5,482,509	-	-	35,088	35,088

\*Contributions related to future employees in excess of normal cost and expenses of 13.94% of pay.

For purposes of this projection, based on GASB guidance, we assumed the current contribution rates would continue after the plan becomes fully funded. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.

**SINGLE DISCOUNT RATE DEVELOPMENT**  
**Projection of Plan Fiduciary Net Position (*Dollars in Thousands*)**

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.90%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 453,232	\$ 26,524	\$ 9,814	\$ 255	\$ 36,443	\$ 506,130
2	506,130	25,399	11,750	243	40,504	560,040
3	560,040	24,519	13,690	234	44,654	615,289
4	615,289	23,769	15,794	226	48,908	671,946
5	671,946	23,066	18,070	218	53,269	729,993
6	729,993	22,377	20,740	211	57,725	789,144
7	789,144	21,713	23,626	204	62,260	849,287
8	849,287	21,064	26,635	197	66,870	910,389
9	910,389	20,440	29,888	190	71,547	972,298
10	972,298	19,824	33,340	183	76,281	1,034,880
11	1,034,880	19,180	37,118	176	81,053	1,097,819
12	1,097,819	18,529	41,467	169	85,832	1,160,544
13	1,160,544	17,857	45,942	162	90,588	1,222,885
14	1,222,885	17,181	50,492	154	95,311	1,284,731
15	1,284,731	16,523	55,292	147	99,986	1,345,801
16	1,345,801	15,875	60,225	140	104,594	1,405,905
17	1,405,905	15,221	65,438	133	109,115	1,464,670
18	1,464,670	14,558	70,720	125	113,528	1,521,911
19	1,521,911	13,897	76,341	118	117,807	1,577,156
20	1,577,156	13,241	82,049	110	121,925	1,630,163
21	1,630,163	12,589	87,766	103	125,866	1,680,749
22	1,680,749	11,943	93,614	96	129,611	1,728,593
23	1,728,593	11,309	99,560	89	133,136	1,773,389
24	1,773,389	10,687	105,390	82	136,425	1,815,029
25	1,815,029	10,069	111,147	74	139,467	1,853,344
26	1,853,344	9,454	116,794	67	142,252	1,888,189
27	1,888,189	8,859	122,231	60	144,771	1,919,528
28	1,919,528	8,286	127,281	54	147,029	1,947,508
29	1,947,508	7,739	131,939	47	149,038	1,972,299
30	1,972,299	7,218	136,262	41	150,809	1,994,023
31	1,994,023	6,730	140,170	35	152,355	2,012,903
32	2,012,903	6,281	143,635	29	153,696	2,029,216
33	2,029,216	5,878	146,622	24	154,853	2,043,301
34	2,043,301	5,536	148,977	19	155,861	2,055,702
35	2,055,702	5,259	150,728	15	156,763	2,066,981
36	2,066,981	5,042	151,946	12	157,598	2,077,663
37	2,077,663	4,885	152,637	9	158,409	2,088,311
38	2,088,311	4,785	152,813	6	159,240	2,099,517
39	2,099,517	4,741	152,471	4	160,137	2,111,920
40	2,111,920	4,747	151,625	3	161,150	2,126,189
41	2,126,189	4,798	150,289	2	162,331	2,143,027
42	2,143,027	4,887	148,480	1	163,735	2,163,168
43	2,163,168	5,007	146,232	1	165,418	2,187,360
44	2,187,360	5,150	143,573	-	167,437	2,216,374
45	2,216,374	5,311	140,525	-	169,854	2,251,014
46	2,251,014	5,485	137,111	-	172,729	2,292,117
47	2,292,117	5,671	133,351	-	176,129	2,340,566
48	2,340,566	5,866	129,265	-	180,123	2,397,290
49	2,397,290	6,071	124,871	-	184,782	2,463,272
50	2,463,272	6,283	120,192	-	190,184	2,539,547

For purposes of this projection, based on GASB guidance, we assumed the current contribution rates would continue after the plan becomes fully funded. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.

**SINGLE DISCOUNT RATE DEVELOPMENT****Projection of Plan Fiduciary Net Position (*Dollars in Thousands*) (Concluded)**

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.90%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
51	\$ 2,539,547	\$ 6,503	\$ 115,252	\$ -	\$ 196,410	\$ 2,627,208
52	2,627,208	6,730	110,070	-	203,545	2,727,413
53	2,727,413	6,966	104,670	-	211,679	2,841,388
54	2,841,388	7,209	99,080	-	220,909	2,970,426
55	2,970,426	7,462	93,330	-	231,336	3,115,894
56	3,115,894	7,723	87,455	-	243,066	3,279,228
57	3,279,228	7,993	81,491	-	256,210	3,461,940
58	3,461,940	8,273	75,471	-	270,889	3,665,631
59	3,665,631	8,563	69,439	-	287,225	3,891,980
60	3,891,980	8,862	63,439	-	305,351	4,142,754
61	4,142,754	9,172	57,518	-	325,404	4,419,812
62	4,419,812	9,493	51,726	-	347,528	4,725,107
63	4,725,107	9,826	46,113	-	371,877	5,060,697
64	5,060,697	10,170	40,731	-	398,610	5,428,746
65	5,428,746	10,526	35,626	-	427,898	5,831,544
66	5,831,544	10,894	30,842	-	459,918	6,271,514
67	6,271,514	11,275	26,413	-	494,863	6,751,239
68	6,751,239	11,670	22,368	-	532,933	7,273,474
69	7,273,474	12,078	18,724	-	574,346	7,841,174
70	7,841,174	12,501	15,488	-	619,336	8,457,523
71	8,457,523	12,939	12,655	-	668,155	9,125,962
72	9,125,962	13,392	10,214	-	721,074	9,850,214
73	9,850,214	13,860	8,141	-	778,388	10,634,321
74	10,634,321	14,345	6,407	-	840,418	11,482,677
75	11,482,677	14,847	4,979	-	907,513	12,400,058
76	12,400,058	15,367	3,820	-	980,052	13,391,657
77	13,391,657	15,905	2,896	-	1,058,445	14,463,111
78	14,463,111	16,462	2,169	-	1,143,139	15,620,543
79	15,620,543	17,038	1,606	-	1,234,620	16,870,595
80	16,870,595	17,634	1,174	-	1,333,414	18,220,469
81	18,220,469	18,251	849	-	1,440,091	19,677,962
82	19,677,962	18,890	607	-	1,555,267	21,251,512
83	21,251,512	19,551	429	-	1,679,610	22,950,244
84	22,950,244	20,235	299	-	1,813,841	24,784,021
85	24,784,021	20,944	206	-	1,958,741	26,763,500
86	26,763,500	21,677	140	-	2,115,150	28,900,187
87	28,900,187	22,435	94	-	2,283,980	31,206,508
88	31,206,508	23,221	62	-	2,466,211	33,695,878
89	33,695,878	24,033	40	-	2,662,904	36,382,775
90	36,382,775	24,875	26	-	2,875,202	39,282,826
91	39,282,826	25,745	16	-	3,104,340	42,412,895
92	42,412,895	26,646	10	-	3,351,650	45,791,181
93	45,791,181	27,579	6	-	3,618,571	49,437,325
94	49,437,325	28,544	4	-	3,906,654	53,372,519
95	53,372,519	29,543	2	-	4,217,573	57,619,633
96	57,619,633	30,577	1	-	4,553,135	62,203,344
97	62,203,344	31,647	1	-	4,915,290	67,150,280
98	67,150,280	32,755	-	-	5,306,141	72,489,176
99	72,489,176	33,902	-	-	5,727,958	78,251,036
100	78,251,036	35,088	-	-	6,183,191	84,469,315

For purposes of this projection, based on GASB guidance, we assumed the current contribution rates would continue after the plan becomes fully funded. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.

### SINGLE DISCOUNT RATE DEVELOPMENT

Present Values of Projected Benefits (*Dollars in Thousands*)

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^(a)-.5	(g)=(e)*vf^(a)-.5	(h)=(c)/(1+sdr)^(a)-.5
1	\$ 453,232	\$ 9,814	\$ 9,814	\$ -	\$ 9,448	\$ -	\$ 9,448
2	506,129	11,750	11,750	-	10,484	-	10,484
3	560,039	13,690	13,690	-	11,320	-	11,320
4	615,288	15,794	15,794	-	12,104	-	12,104
5	671,945	18,070	18,070	-	12,834	-	12,834
6	729,992	20,740	20,740	-	13,652	-	13,652
7	789,142	23,626	23,626	-	14,413	-	14,413
8	849,286	26,635	26,635	-	15,059	-	15,059
9	910,387	29,888	29,888	-	15,661	-	15,661
10	972,296	33,340	33,340	-	16,191	-	16,191
11	1,034,877	37,118	37,118	-	16,705	-	16,705
12	1,097,817	41,467	41,467	-	17,297	-	17,297
13	1,160,542	45,942	45,942	-	17,760	-	17,760
14	1,222,884	50,492	50,492	-	18,090	-	18,090
15	1,284,730	55,292	55,292	-	18,359	-	18,359
16	1,345,799	60,225	60,225	-	18,533	-	18,533
17	1,405,904	65,438	65,438	-	18,663	-	18,663
18	1,464,670	70,720	70,720	-	18,692	-	18,692
19	1,521,911	76,341	76,341	-	18,701	-	18,701
20	1,577,155	82,049	82,049	-	18,627	-	18,627
21	1,630,161	87,766	87,766	-	18,467	-	18,467
22	1,680,747	93,614	93,614	-	18,255	-	18,255
23	1,728,590	99,560	99,560	-	17,993	-	17,993
24	1,773,385	105,390	105,390	-	17,652	-	17,652
25	1,815,025	111,147	111,147	-	17,253	-	17,253
26	1,853,340	116,794	116,794	-	16,802	-	16,802
27	1,888,185	122,231	122,231	-	16,297	-	16,297
28	1,919,523	127,281	127,281	-	15,728	-	15,728
29	1,947,504	131,939	131,939	-	15,110	-	15,110
30	1,972,295	136,262	136,262	-	14,463	-	14,463
31	1,994,019	140,170	140,170	-	13,788	-	13,788
32	2,012,900	143,635	143,635	-	13,094	-	13,094
33	2,029,212	146,622	146,622	-	12,388	-	12,388
34	2,043,297	148,977	148,977	-	11,665	-	11,665
35	2,055,698	150,728	150,728	-	10,938	-	10,938
36	2,066,977	151,946	151,946	-	10,219	-	10,219
37	2,077,659	152,637	152,637	-	9,514	-	9,514
38	2,088,308	152,813	152,813	-	8,828	-	8,828
39	2,099,514	152,471	152,471	-	8,163	-	8,163
40	2,111,916	151,625	151,625	-	7,524	-	7,524
41	2,126,185	150,289	150,289	-	6,911	-	6,911
42	2,143,023	148,480	148,480	-	6,328	-	6,328
43	2,163,164	146,232	146,232	-	5,776	-	5,776
44	2,187,355	143,573	143,573	-	5,256	-	5,256
45	2,216,368	140,525	140,525	-	4,768	-	4,768
46	2,251,007	137,111	137,111	-	4,311	-	4,311
47	2,292,110	133,351	133,351	-	3,886	-	3,886
48	2,340,560	129,265	129,265	-	3,491	-	3,491
49	2,397,284	124,871	124,871	-	3,126	-	3,126
50	2,463,266	120,192	120,192	-	2,788	-	2,788

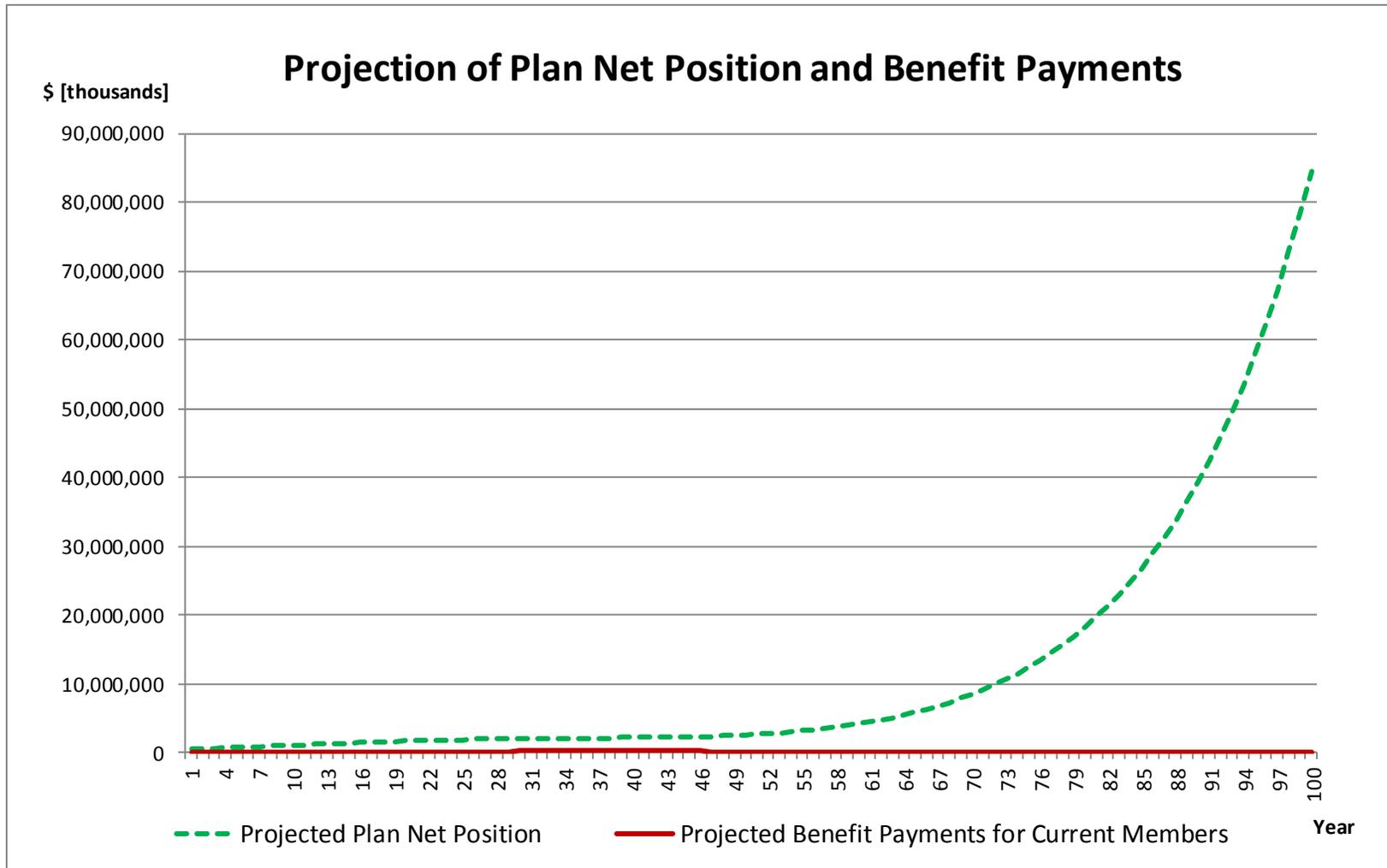
For purposes of this projection, based on GASB guidance, we assumed the current contribution rates would continue after the plan becomes fully funded. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.

**SINGLE DISCOUNT RATE DEVELOPMENT**

**Present Values of Projected Benefits (*Dollars in Thousands*) (Concluded)**

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v <sup>a</sup> ((a)-.5)	(g)=(e)*vf <sup>a</sup> ((a)-.5)	(h)=((c)/(1+sdr) <sup>a</sup> ((a)-.5)
51	\$ 2,539,541	\$ 115,252	\$ 115,252	\$ -	\$ 2,478	\$ -	\$ 2,478
52	2,627,201	110,070	110,070	-	2,193	-	2,193
53	2,727,406	104,670	104,670	-	1,933	-	1,933
54	2,841,381	99,080	99,080	-	1,696	-	1,696
55	2,970,420	93,330	93,330	-	1,480	-	1,480
56	3,115,887	87,455	87,455	-	1,286	-	1,286
57	3,279,221	81,491	81,491	-	1,110	-	1,110
58	3,461,934	75,471	75,471	-	953	-	953
59	3,665,624	69,439	69,439	-	813	-	813
60	3,891,973	63,439	63,439	-	688	-	688
61	4,142,747	57,518	57,518	-	578	-	578
62	4,419,805	51,726	51,726	-	482	-	482
63	4,725,101	46,113	46,113	-	398	-	398
64	5,060,690	40,731	40,731	-	326	-	326
65	5,428,739	35,626	35,626	-	264	-	264
66	5,831,536	30,842	30,842	-	212	-	212
67	6,271,507	26,413	26,413	-	168	-	168
68	6,751,232	22,368	22,368	-	132	-	132
69	7,273,467	18,724	18,724	-	102	-	102
70	7,841,167	15,488	15,488	-	79	-	79
71	8,457,517	12,655	12,655	-	59	-	59
72	9,125,955	10,214	10,214	-	44	-	44
73	9,850,207	8,141	8,141	-	33	-	33
74	10,634,314	6,407	6,407	-	24	-	24
75	11,482,671	4,979	4,979	-	17	-	17
76	12,400,053	3,820	3,820	-	12	-	12
77	13,391,652	2,896	2,896	-	9	-	9
78	14,463,105	2,169	2,169	-	6	-	6
79	15,620,537	1,606	1,606	-	4	-	4
80	16,870,589	1,174	1,174	-	3	-	3
81	18,220,463	849	849	-	2	-	2
82	19,677,956	607	607	-	1	-	1
83	21,251,506	429	429	-	1	-	1
84	22,950,238	299	299	-	1	-	1
85	24,784,015	206	206	-	-	-	-
86	26,763,493	140	140	-	-	-	-
87	28,900,180	94	94	-	-	-	-
88	31,206,502	62	62	-	-	-	-
89	33,695,872	40	40	-	-	-	-
90	36,382,768	26	26	-	-	-	-
91	39,282,819	16	16	-	-	-	-
92	42,412,887	10	10	-	-	-	-
93	45,791,173	6	6	-	-	-	-
94	49,437,317	4	4	-	-	-	-
95	53,372,512	2	2	-	-	-	-
96	57,619,626	1	1	-	-	-	-
97	62,203,337	1	1	-	-	-	-
98	67,150,274	-	-	-	-	-	-
99	72,489,170	-	-	-	-	-	-
100	78,251,029	-	-	-	-	-	-
<b>Totals</b>					\$ 650,963	\$ -	\$ 650,963

For purposes of this projection, based on GASB guidance, we assumed the current contribution rates would continue after the plan becomes fully funded. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.



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## **SECTION H**

### **GLOSSARY OF TERMS**

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## GLOSSARY OF TERMS

<b><i>Actuarial Accrued Liability (AAL)</i></b>	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."
<b><i>Actuarial Assumptions</i></b>	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
<b><i>Accrued Service</i></b>	Service credited under the system which was rendered before the date of the actuarial valuation.
<b><i>Actuarial Equivalent</i></b>	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
<b><i>Actuarial Cost Method</i></b>	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
<b><i>Actuarial Gain (Loss)</i></b>	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
<b><i>Actuarial Present Value (APV)</i></b>	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future benefit payments at predetermined rates of interest to reflect the expected effects of the time value (present value) of money and the probabilities of payment.
<b><i>Actuarial Valuation</i></b>	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions performed in conformity with Actuarial Standards of Practice unless otherwise specified by the GASB.
<b><i>Actuarial Valuation Date</i></b>	The date as of which an actuarial valuation is performed.
<b><i>Actuarially Determined Contribution (ADC)</i></b>	A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

## GLOSSARY OF TERMS

<b><i>Amortization Payment</i></b>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<b><i>Amortization Method</i></b>	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be “open” (meaning, reset each year) or “closed” (the number of years remaining will decline each year).
<b><i>Cost-of-Living Adjustments</i></b>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<b><i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i></b>	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
<b><i>Covered-Employee Payroll</i></b>	The payroll of covered employees, which is typically only the pensionable pay (meets the statutory salary definition) and does not include pay above any pay cap.
<b><i>Deferred Inflows and Outflows of Resources</i></b>	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.
<b><i>Discount Rate or Single Discount Rate</i></b>	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: <ol style="list-style-type: none"> <li>1. The benefit payments to be made while the pension plans’ fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and</li> <li>2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.</li> </ol>
<b><i>Entry Age Actuarial Cost Method or Entry Age Normal (EAN)</i></b>	The EAN is a funding method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.

## GLOSSARY OF TERMS

<b><i>GASB</i></b>	The Governmental Accounting Standards Board is an organization that exists with authority to promulgate accounting standards for state and local governmental entities.
<b><i>Fiduciary Net Position</i></b>	The fiduciary net position is the value of the assets of the trust.
<b><i>Long-Term Expected Rate of Return</i></b>	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
<b><i>Money-Weighted Rate of Return</i></b>	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
<b><i>Multiple-Employer Defined Benefit Pension Plan</i></b>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<b><i>Municipal Bond Rate</i></b>	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
<b><i>Net Pension Liability (NPL)</i></b>	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
<b><i>Non-Employer Contribution Entities</i></b>	Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB Accounting Statements No. 67 and No. 68 plan members are not considered non-employer contribution entities.
<b><i>Normal Cost</i></b>	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method.
<b><i>Other Postemployment Benefits (OPEB)</i></b>	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other post-employment benefits do not include termination benefits.
<b><i>Real Rate of Return</i></b>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<b><i>Service Cost</i></b>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.

## GLOSSARY OF TERMS

<b><i>Total Pension Expense</i></b>	<p>The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year:</p> <ol style="list-style-type: none"><li>1. Service Cost</li><li>2. Interest on the Total Pension Liability</li><li>3. Current-Period Changes in Benefit Terms</li><li>4. Employee Contributions</li><li>5. Projected Earnings on Plan Investments</li><li>6. Pension Plan Administrative Expense</li><li>7. Other Changes in Plan Fiduciary Net Position</li><li>8. Recognition of Outflow (Inflow) of Resources due to The difference between expected and actual measurement of the Total Pension Liability</li><li>9. Recognition of Outflow (Inflow) of Resources due to Assumption Changes</li><li>10. Recognition of Outflow (Inflow) of Resources due to the difference between projected and actual earnings in pension plan investments</li></ol>
<b><i>Total Pension Liability (TPL)</i></b>	<p>The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.</p>
<b><i>Unfunded Actuarial Accrued Liability (UAAL)</i></b>	<p>The UAAL is the difference between actuarial accrued liability and valuation assets.</p>
<b><i>Valuation Assets</i></b>	<p>The valuation assets are the plan fiduciary net position used in determining the net pension liability of the plan. For purposes of the GASB Statement No. 67, the asset valuation method is equal to the market value of assets.</p>